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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,635

06/16/2005

Yoshikazu Takeda

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12/03/2007

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP  
1250 CONNECTICUT AVENUE, NW  
SUITE 700  
WASHINGTON, DC 20036

EXAMINER

PHAM, THANHHA S

ART UNIT

PAPER NUMBER

2813

MAIL DATE

DELIVERY MODE

12/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,635	<b>Applicant(s)</b> TAKEDA ET AL.	
	<b>Examiner</b> Thanhha Pham	<b>Art Unit</b> 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9,12-15,18-20 and 23-30 is/are pending in the application.
- 4a) Of the above claim(s) 25-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9,12-15,18-20,23 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/16/05</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

This Office Action is in response to Applicant's Election dated 8/20/2007.

### ***Election/Restrictions***

1. Claims 25-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 08/20/2007.
2. Applicant's election with traverse of claims 1, 2, 4-9, 12-15, 18-20, 23 and 24 in the reply filed on 08/20/2007 is acknowledged. The traversal is on the ground(s) that the standard of unity of invention applied to the present invention because claims 25-30 are related in that the non-uniform quantum dots in a semiconductor multilayered structure. This is not found persuasive because the general limitation of "non-uniform quantum dots in a semiconductor multilayered structure" is not a special technical feature since limitation of "non-uniform quantum dots in a semiconductor multilayered structure" has been conventional well-known in the art. The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**3. Claims 1, 2, 4-9, 12-15, 18-20 and 23-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

► With respect to claim 1,

line 3, "the structure" lacking antecedent basis should be changed to "the semiconductor multi-layered structure" as consistent claimed language to clarify scope of claim.

line 3, "such quantum dots" lacking antecedent basis renders the claim indefinite. It is not clear that "such quantum dots" as cited on line 3 refers back/is the same or is different to "non-uniform quantum dots" as cited on lines 1-2. Applicant is respectfully suggested to clarify and use consistent claimed language to clarify scope of claim.

line 4, "the quantum dots in the layer" lacking antecedent basis renders the claim indefinite. It is not clear that "the quantum dots" and "the layer" respectively refer to which quantum dots and layer. Applicant is respectfully suggested to clarify and use consistent claimed language to clarify scope of claim.

► With respect to claim 2,

line 3, term "it" renders the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully

suggested to clarify and use positive consistent claimed language to clarify scope of claim.

► With respect to claim 5,

Line 3, "the quantum dots" lacking antecedent basis should be changed to "the non-uniform quantum dots" to clarify scope of claim.

Lines 5 and 7, term "it" renders the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully suggested to clarify and use positive consistent claimed language to clarify scope of claim.

► With respect to claim 6,

line 5, "the quantum dots" lacking antecedent basis should be changed to "the non-uniform quantum dots" to clarify scope of claim.

lines 6, 7, 9 and 10, terms "it" render the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully suggested to clarify and use positive consistent claimed language to clarify scope of claim.

► With respect to claim 8,

line 3, term "it" renders the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully suggested to clarify and use positive consistent claimed language to clarify scope of claim.

line 6, "said quantum dots" lacking antecedent basis should be changed to "said non-uniform quantum dots" to clarify scope of claim.

► With respect to claim 9,

line 3, term "it" renders the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully suggested to clarify and use positive consistent claimed language to clarify scope of claim.

line 3, it is not clear that "a semiconductor multi-layered structure" as cited on line 3 is the same or different to " a semiconductor multi-layered structure" as cited on lines 1-2.

line 7, "said quantum dots" lacking antecedent basis should be changed to "said non-uniform quantum dots" to clarify scope of claim.

► With respect to claim 12,

Line 3, "said quantum dots" lacking antecedent basis should be changed to "said non-uniform quantum dots" to clarify scope of claim.

► With respect to claim 13,

line 4, "said quantum dots" lacking antecedent basis should be changed to "said non-uniform quantum dots" to clarify scope of claim.

lines 6 and 8, lines 6, 7, 9 and 10, terms "it" render the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully suggested to clarify and use positive consistent claimed language to clarify scope of claim.

► With respect to claim 14,

line 4, "said quantum dots" lacking antecedent basis should be changed to "said non-uniform quantum dots" to clarify scope of claim.

lines 5 and 6, terms "it" render the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully suggested to clarify and use positive consistent claimed language to clarify scope of claim.

► With respect to claim 15,

line 3, term "it" renders the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully suggested to clarify and use positive consistent claimed language to clarify scope of claim.

Line 6, "said quantum dots" lacking antecedent basis should be changed to "said non-uniform quantum dots" to clarify scope of claim.

► With respect to claim 18,

line 5, "the quantum dots" lacking antecedent basis should be changed to "the non-uniform quantum dots" to clarify scope of claim.

lines 5, 6, 8 and 9, terms "it" render the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully suggested to clarify and use positive consistent claimed language to clarify scope of claim.

► With respect to claim 20,

line 3, term "it" renders the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully suggested to clarify and use positive consistent claimed language to clarify scope of claim.

line 6, "said quantum dots" lacking antecedent basis should be changed to "said non-uniform quantum dots" to clarify scope of claim.

► With respect to claim 23,

line 4, "the quantum dots" lacking antecedent basis should be changed to "the non-uniform quantum dots" to clarify scope of claim.

lines 6, 7, 9 and 10, terms "it" render the claim indefinite. It is not clear that "it" represents or stands for which claimed element. Applicant is respectfully suggested to clarify and use positive consistent claimed language to clarify scope of claim.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanhha Pham whose telephone number is (571) 272-1696. The examiner can normally be reached on Monday and Thursday 9:00AM - 9:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr can be reached on (571) 272-1702. The fax phone



Application/Control Number:  
10/539,635  
Art Unit: 2813

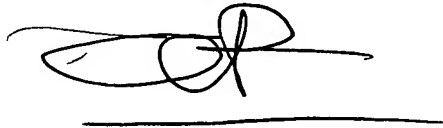
Page 8

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TSP

THANHHA S. PHAM  
PRIMARY EXAMINER

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke, positioned below the printed name and title.